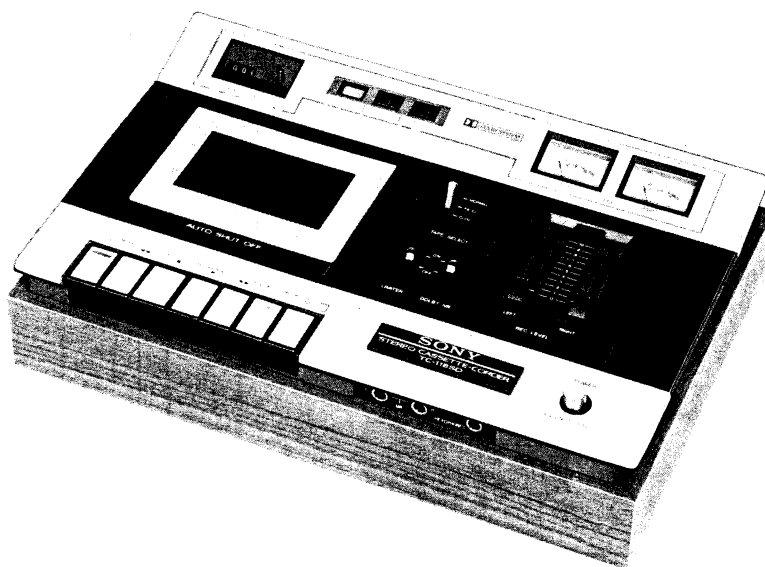


TC-118SD

AEP Model
UK Model
E Model



STEREO CASSETTE-CORDER

SPECIFICATIONS

Power Requirements:	110–120, 220–240 V ac, 50/60 Hz (E model) 240 V ac, 50 Hz (UK model) 220 V ac, 50 Hz (AEP model)	Wow and Flutter:	0.18% WRMS (NAB)
Power Consumption:	7 W	Inputs:	MIC (phone jack) 2 sensitivity 0.2 mV (–72 dB) for low-impedance microphone LINE IN (phono jack) 2 sensitivity 0.06 V (–22 dB) input impedance 100 k Ω LINE OUT (phono jack) 2 output level 0.435 V (–5 dB) at load impedance 100 k Ω suitable load impedance more than 10 k Ω HEADPHONES (binaural jack) 1 suitable load impedance 8 Ω
Tape Speed:	4.8 cm/s (1 $\frac{7}{8}$ ips)	Record/playback Jack:	Input impedance less than 10 k Ω Output impedance less than 10 k Ω
Fast Forward and Rewind Time:	Approx. 90 seconds (by C-60)	Dimensions:	Approx. 362 (w) x 105 (h) x 238 (d) mm 14 $\frac{1}{4}$ (w) x 4 $\frac{1}{8}$ (h) x 9 $\frac{3}{8}$ (d) inches Including projecting parts and controls
Recording System:	4-track 2-channel stereo	Weight:	Approx. 3.6 kg, 7 lb 15 oz
Record Bias Frequency:	80 kHz		
Signal-to-Noise Ratio:	DOLBY* NR OFF With Ferri-Chrome Cassette 46 dB at peak level (NAB) 40 dB (DIN) With chromium dioxide cassette 46 dB at peak level (NAB)		
Total Harmonic Distortion:	3%		
Frequency Response:	DOLBY* NR OFF With Ferri-Chrome Cassette and chromium dioxide cassette 40–13,000 Hz (NAB) 63–11,000 Hz (DIN) With regular cassette 40–10,000 Hz (NAB) 63–8,500 Hz (DIN)		

0 dB = 0.775 V

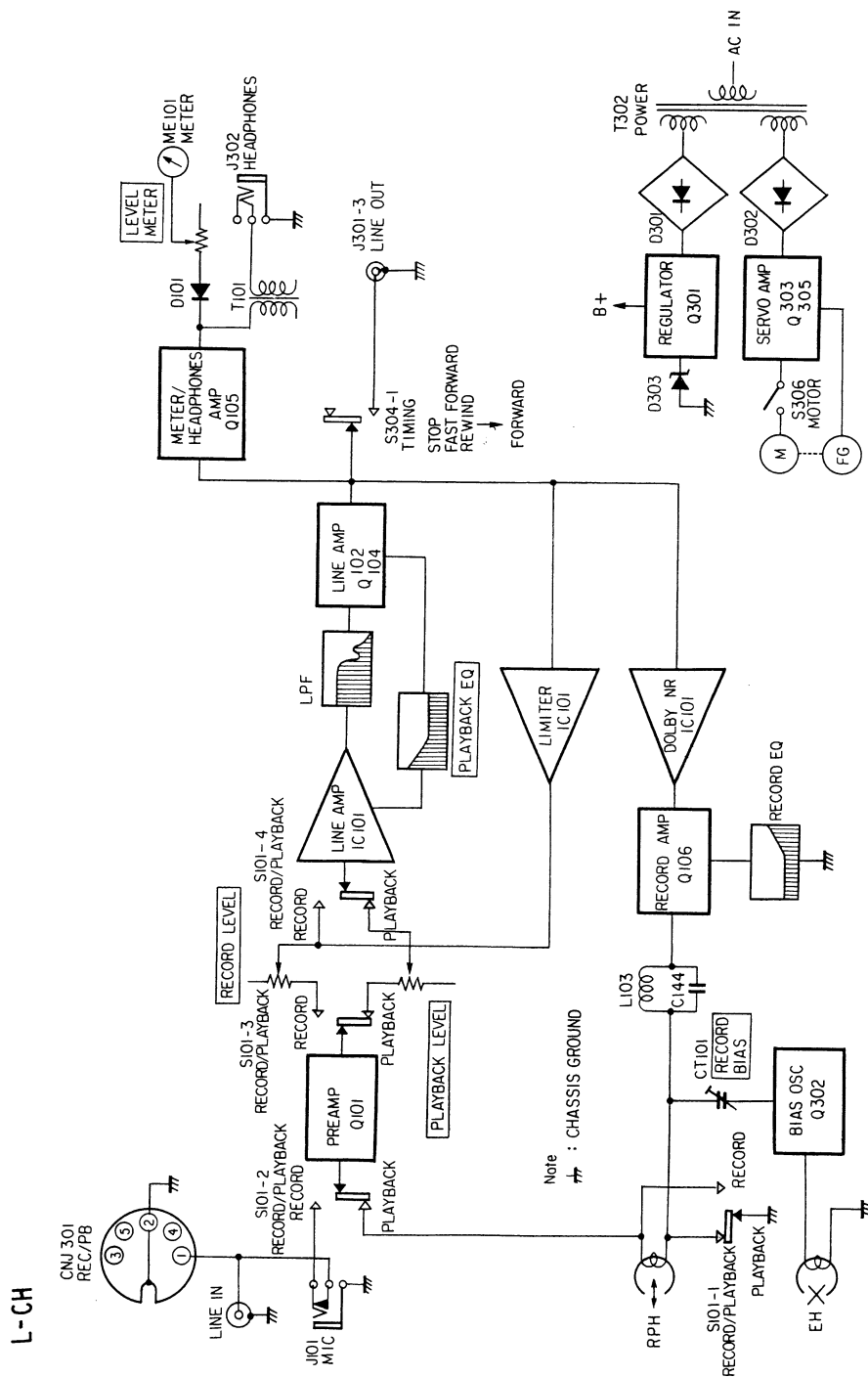
*'Dolby' and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.

SONY[®]

SERVICE MANUAL

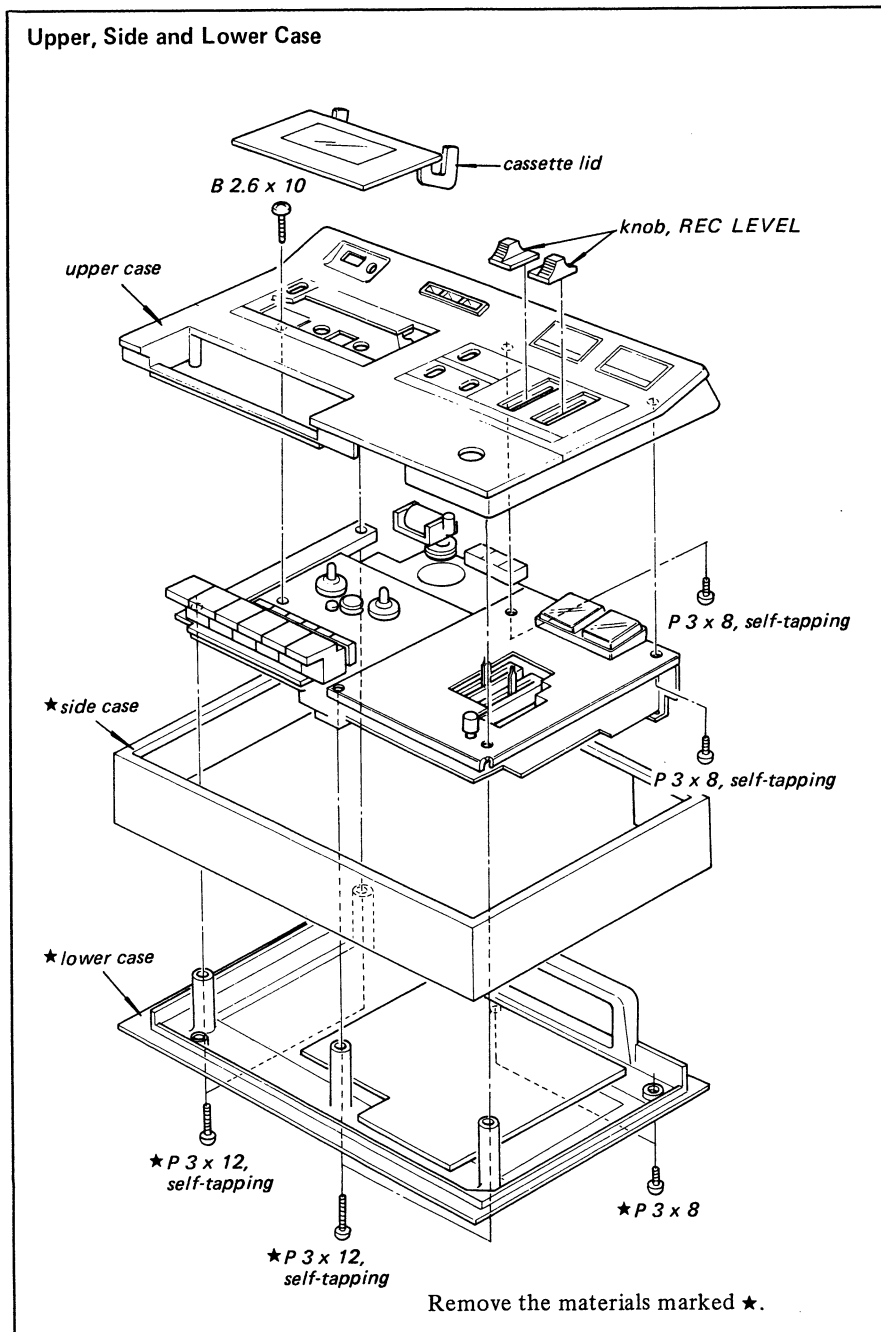
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM



1-2. DISASSEMBLY

Upper, Side and Lower Case



MIC Jack Board

1. Remove a screw (K 3 x 8).
2. Remove two Nuts with microphone jack.

Switch Board

Remove four screws (PSW 3 x 6).

Control Board

Remove four screws (PSW 3 x 6).

Input/output Board

Remove plastic rivets (four).

Timing Switch Board

Remove a screw (P 2.6 x 5).

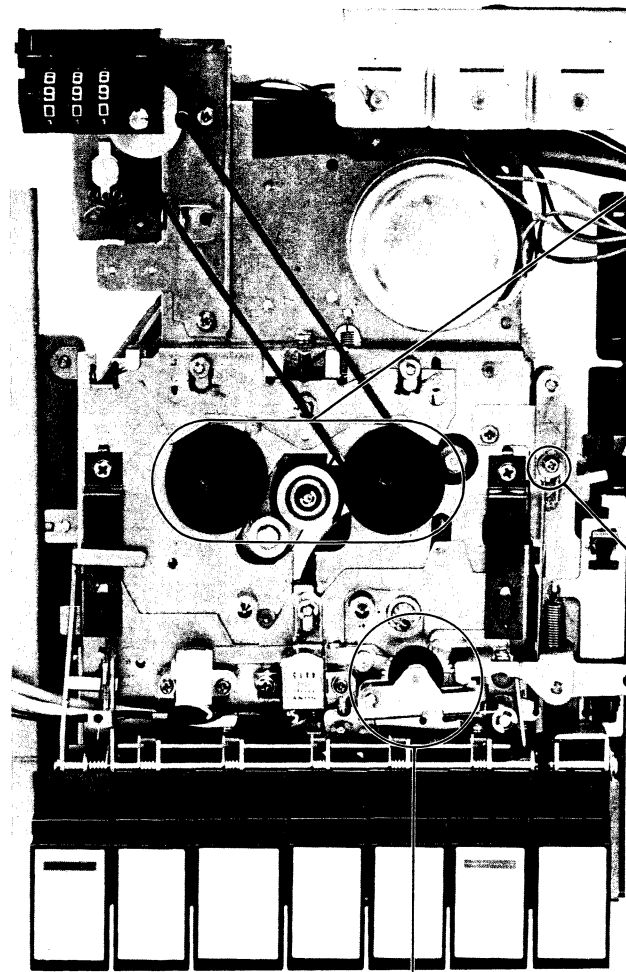
Servo Amp Board

Remove two screws (P 2.6 x 6).

MEMO

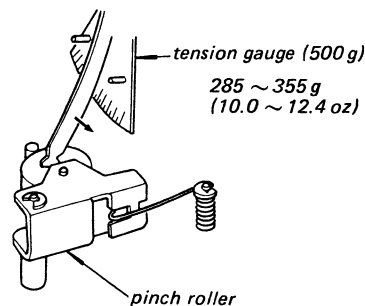
SECTION 2 ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS



Pinch Roller Pressure Measurement — playback mode —

Pull the pinch roller away from the capstan using a tension gauge as shown by the arrow. Make the pinch roller return to the capstan slowly. The pressure should be measured at the point where the pinch roller just contacts the capstan.



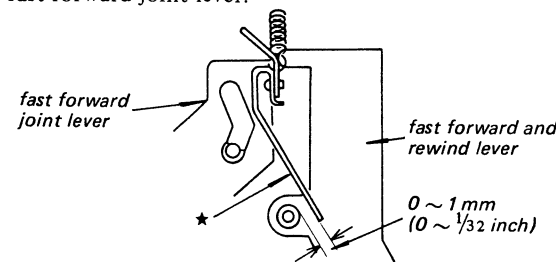
Torque Measurement

Specification:

Forward 30 ~ 60 g·cm
(CQ-101A, 102A, 103A) (0.42 ~ 0.83 oz·inch)

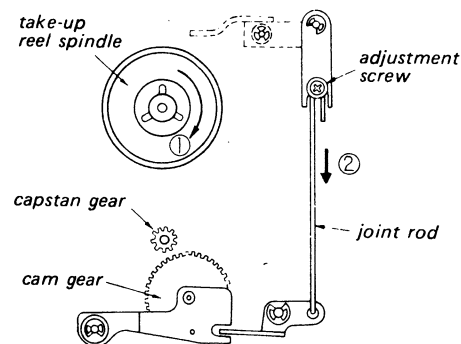
Fast forward and 60 ~ 150 g·cm
rewind (CQ-201A) (0.83 ~ 2.1 oz·inch)

If fast forward and rewind torque deviate from the specified value, bend the portion (marked ★) of the fast forward joint lever.

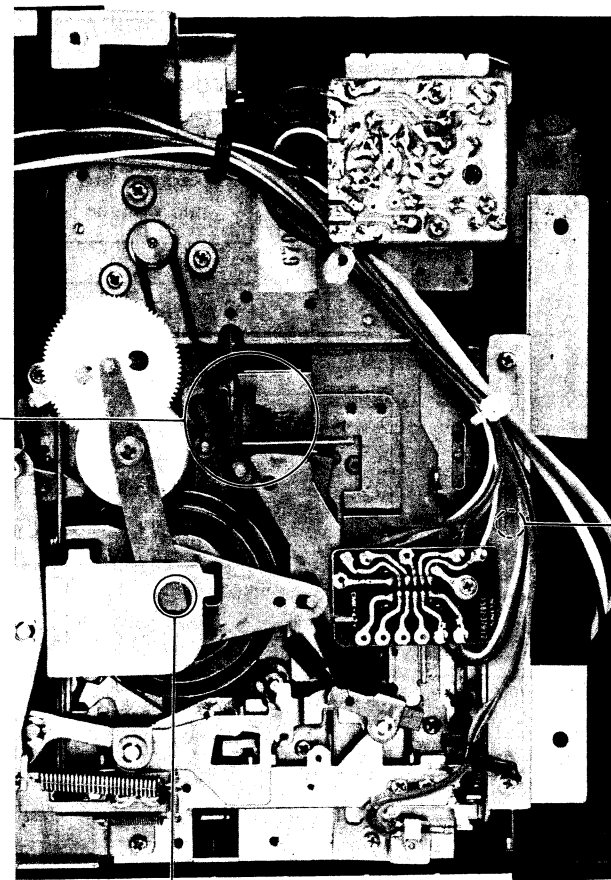


Automatic Shut-off Adjustment

In playback or record mode and with the POWER switch OFF, turn the take-up reel spindle in the direction shown by the arrow ① until the joint rod moves to the full in the direction shown by the arrow ②. At this time the cam gear and the capstan gear should completely mesh. If necessary, adjust the joint rod length by the adjustment screw.

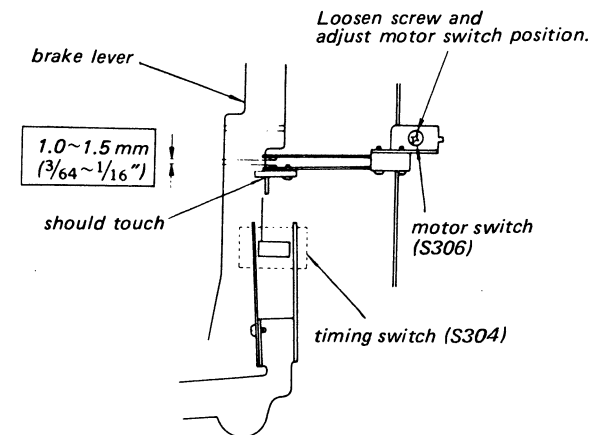


- Note:**
1. Just when the set is placed in playback or record mode, the clearance between the cam gear and the capstan gear should be more than 2 mm (5/64 inch).
 2. Automatic Shut-off Mechanism should operate within 5 sec. at the tape end.
 3. Automatic Shut-off Mechanism should not operate with mechanical shock during tape travel.
 4. As soon as a tape cassette with no tape remaining on the supply side is loaded Automatic Shut-off Mechanism should operate.



Motor Switch (S306) Adjustment

— stop mode —



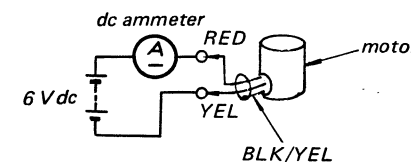
Slowly depress the forward button and make sure that the timing switch (S304) turns ON after the motor switch (S306) turns ON (closes).

Flywheel Thrust Play Adjustment

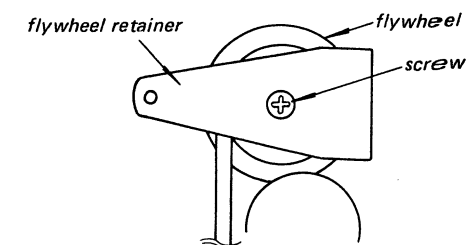
Procedure:

1. Mode: Playback

Disconnect the motor lead wire from the servo amp board and connect an external 6 V dc power supply and dc ammeter to the motor lead wire.



2. Loosen the screw until the screw tip is detached from the flywheel shaft.
3. Turn the screw clockwise gradually to the position where the motor current suddenly increases.
4. Then, loosen the screw about 1/8 turns from the position obtained in step 3.
5. Secure the screw with a suitable locking compound.



2.2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with an alcohol moistened swab:

* record/playback head	* pinch rollers
* erase head	* rubber belts
* capstans	* idlers
2. Demagnetize record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for adjustments.
4. After the adjustments, apply a small amount of a locking compound to the parts adjusted.
5. The adjustments should be performed in the order given in this service manual.
6. The adjustments should be performed for both L-CH and R-CH with rated power supply voltage unless otherwise specified.
7. The record and playback level adjustments should be carefully performed.
8. Tapes required:
 - 1) blank tapes (completely erased with bulk eraser)
SONY CS-10 (HF)
 - 2) test tapes
SONY P-4-A81S (6.3 kHz, -10 dB)
P-4-A82 (10 kHz, -10 dB)
P-4-L81 (333 Hz, 0 dB)
WS-48 (3 kHz, 0 dB)
9. The switches should be set as follows unless otherwise specified.

LIMITER:	OFF
TAPE SELECT:	NORMAL
HIGH FILTER:	OFF

Normal Input Level

	MIC	LINE IN
source impedance	300 Ω	10 k Ω
input level	0.77 mV (-60 dB)	0.25 V (-10 dB)

Normal Output Level

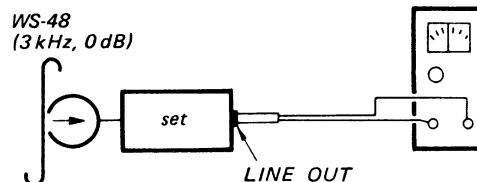
	LINE OUT
load impedance	100 k Ω
output level	0.44 V (-5 dB)

1. Tape Speed Adjustment

Procedure:

Mode: Playback

speed checker
SONY LMF-30 or
digital frequency
counter



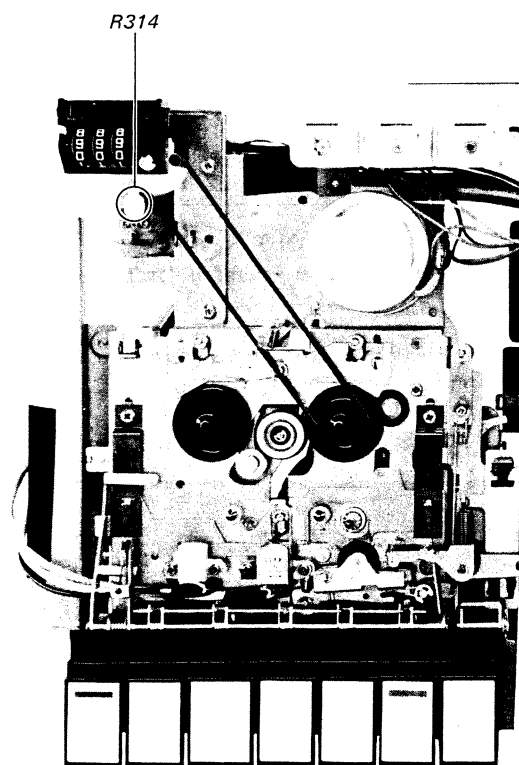
Adjust R314 to satisfy the specification.

Specification:

speed checker	digital frequency counter
-1 ~ +1 %	2,970 ~ 3,030 Hz

Frequency difference between beginning and end of tape should be within 1 % (30 Hz).

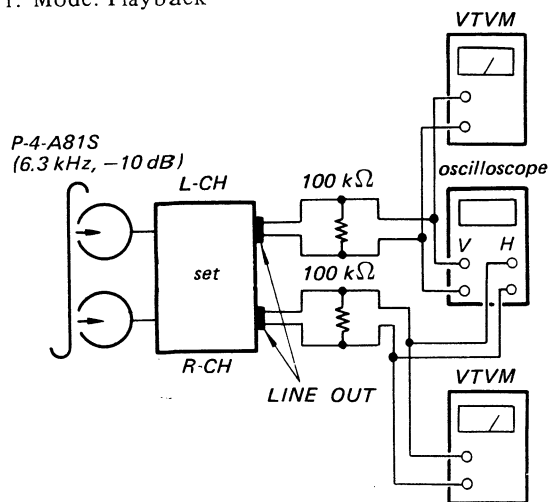
Adjustment Location:



2. Record/playback Head Azimuth Adjustment

Procedure:

1. Mode: Playback



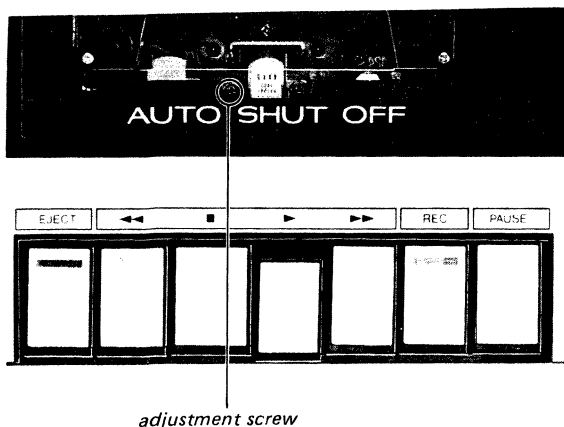
2.

Adjust	Oscilloscope patterns
azimuth adjustment screw to obtain the in-phase pattern around the highest VTVM readings.	[Allowance] <i>in-phase</i> (L) (R) <i>90° out-of-phase</i> (L) (R) Level drop should be within 0.5 dB.

3. Assume that LINE OUT level does not change when the mode is changed from playback to stop several times.

4. After adjustment, apply locking compound to the screw.

Adjustment Location:

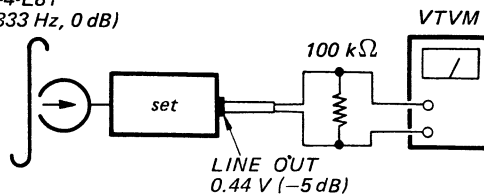


3. Playback Level Adjustment

Procedure:

1. Mode: Playback

P-4-L81
(333 Hz, 0 dB)



Adjust R110 (L-CH) and R210 (R-CH) to obtain the specified value.

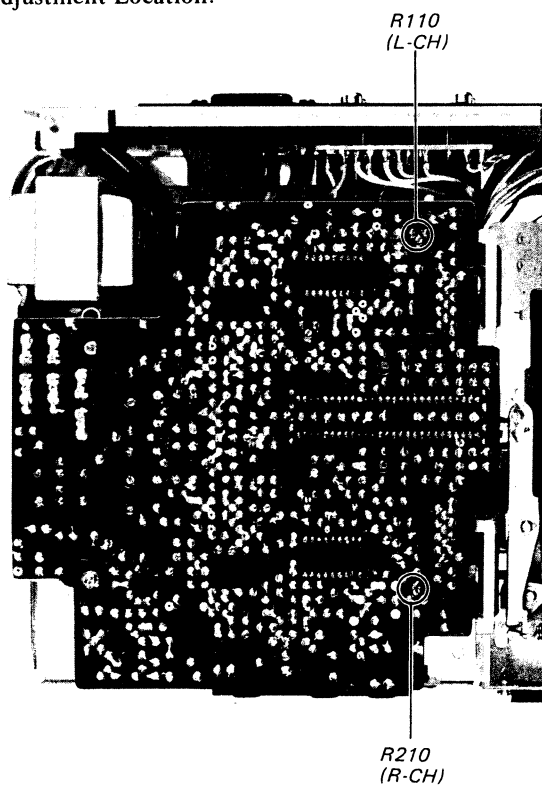
2. Assume that the LINE OUT level does not change when the mode is changed from playback to stop several times.

Specification:

LINE OUT level: 0.39 ~ 0.49 V
(-5 dB $\pm$ 0.5 dB)

Level difference between channels:
less than 0.5 dB

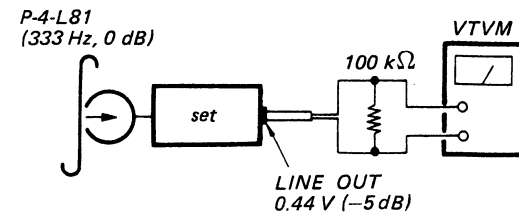
Adjustment Location:



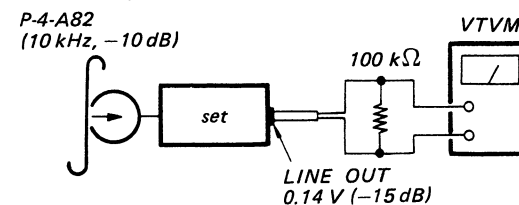
4. Playback Equalizer Adjustment

Procedure:

1. Mode: Playback

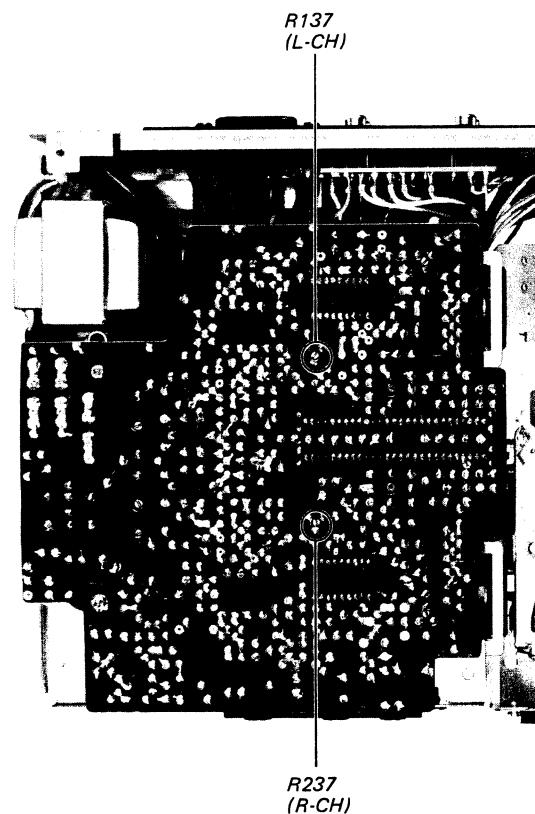


2. Mode: Playback



Adjust R137 (L-CH) and R237 (R-CH) to obtain the LINE OUT voltage 10 dB lower than that obtained in step 1 above.

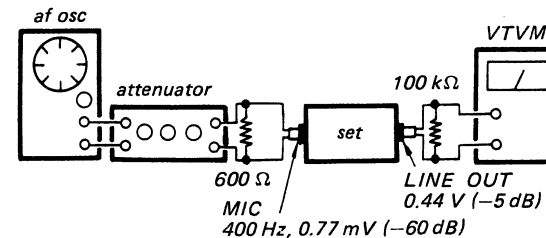
Adjustment Location:



5. VU Meter Calibration

Procedure:

1. Mode: Record



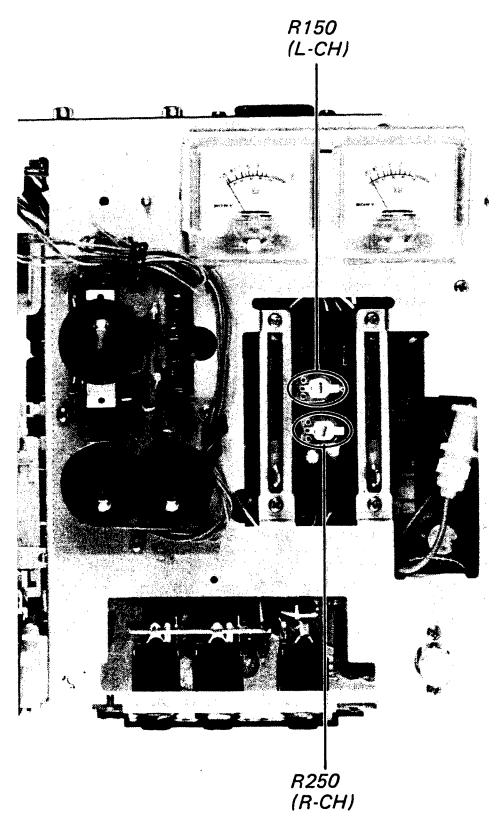
- 2.

Adjust	VU meter reading: 0 VU
R150 (L-CH) R250 (R-CH)	

Specification:

When adjusting the LINE IN level control to make 0 VU indication, VTVM reading should be 0.44 V (-5 dB).

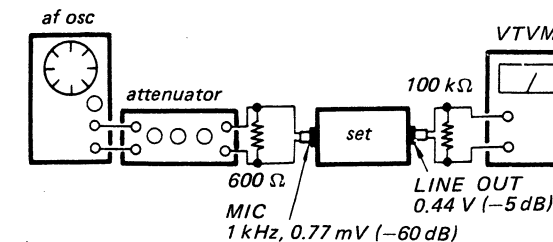
Adjustment Location:



6. Record Bias Adjustment

Procedure:

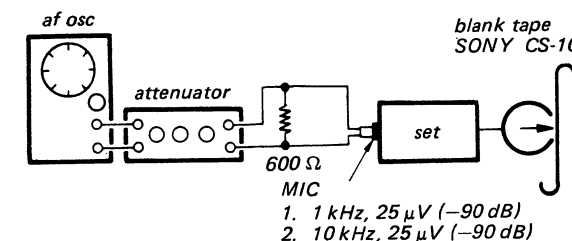
1. Mode: Record



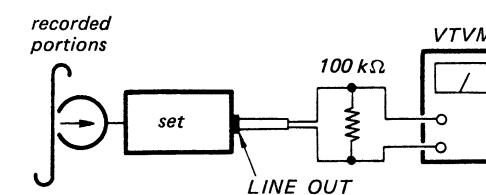
Adjust the REC LEVEL controls to obtain 0.44 V (-5 dB) VTVM reading.

Procedure:

2. Mode: Record

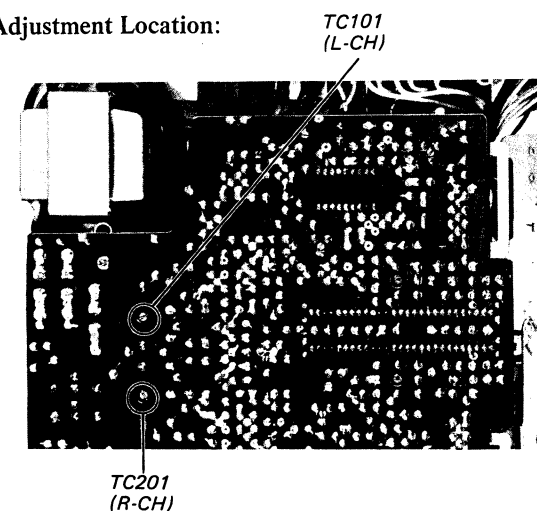


3. Mode: Playback



Adjust trimmers TC101 (L-CH) and TC201 (R-CH) so that 10 kHz output level is 0.5 dB lower than 1 kHz output level.

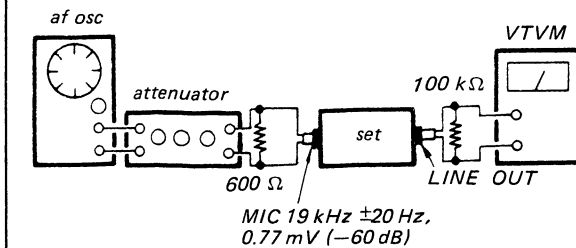
Adjustment Location:



7. 19 kHz Filter Adjustment

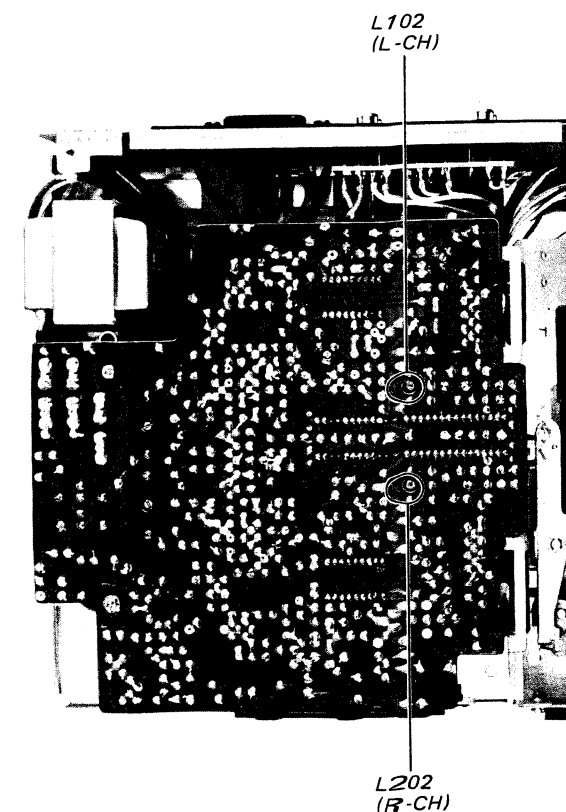
Procedure:

- Mode: Record



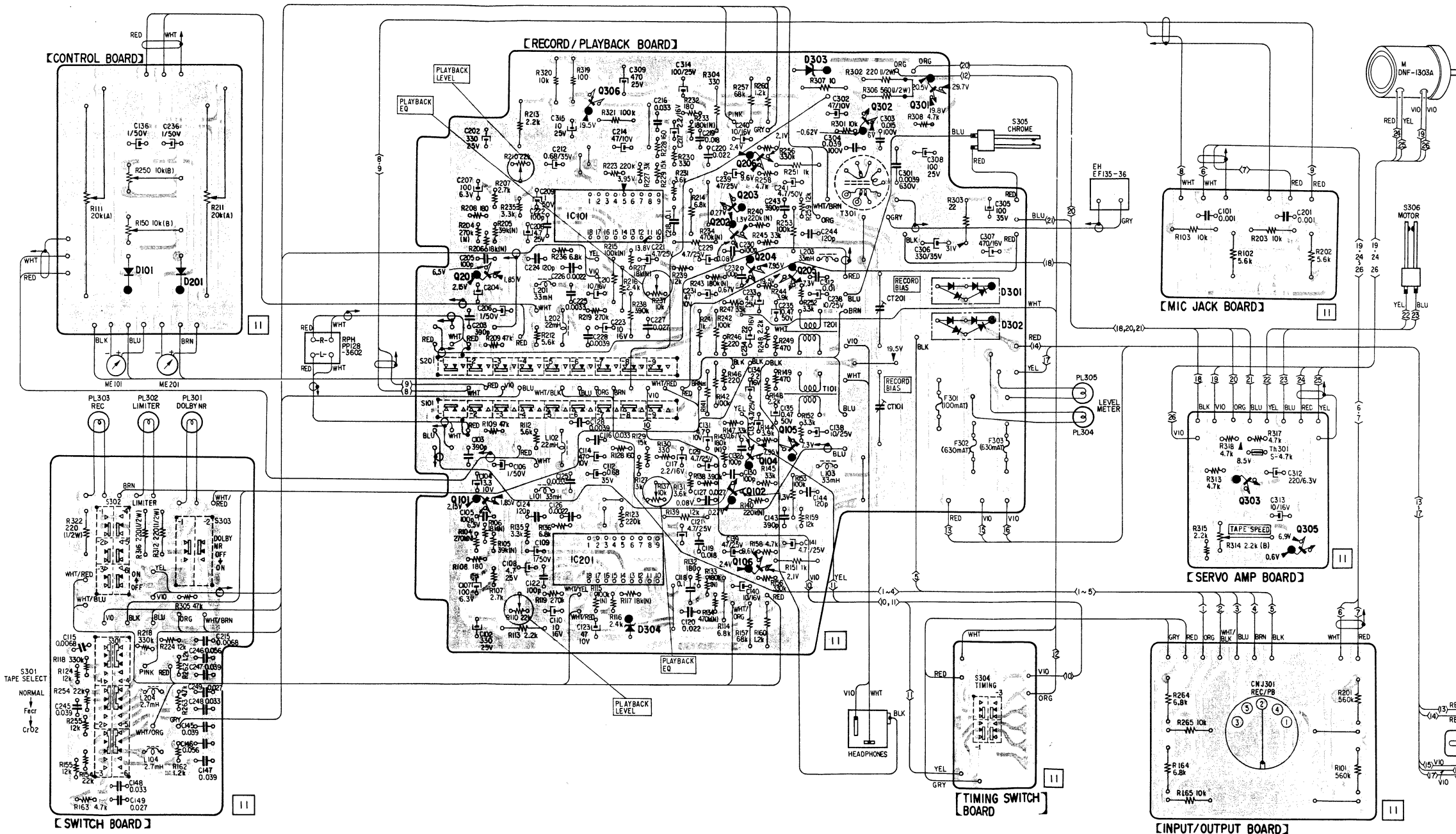
Adjust L102 (L-CH) and L202 (R-CH) for minimum VTVM reading.

Adjustment Location:

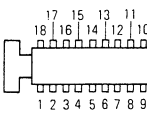


DIAGRAMS

— Conductor Side —

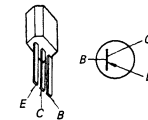


IC101: CX064
IC201: CX064



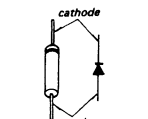
(Top view,

Q306: 2SA677

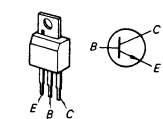


D101: 1S188

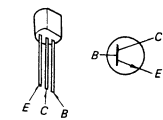
D303: RD22E



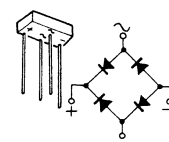
Q101: 2SC1636
Q201: 2SC1636



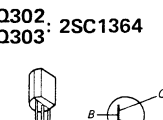
Q102, 202: 2SC900
Q305 : 2SC1475



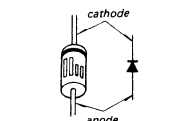
D301: SIRB10
D302: SIRB10



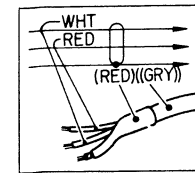
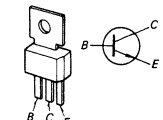
Q104 ~ 106: 2SC945
Q204 ~ 206: 2SC945



D304: EQA01-14R

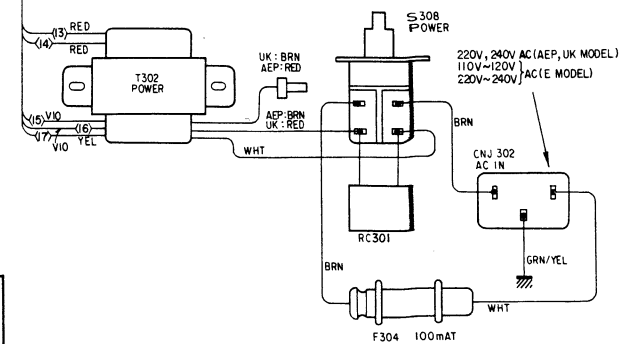


Q301: 2SC1096



Note

- — indicates lead wire connection on the conductor side.
- — indicates lead wire connection through the component side.
- B+ pattern



Q			201	306	203 202 102 103	204 104 106	206 205 105	302	301			303		Q
D		101	201					303		301 302			305	D

3-2. SCHEMATIC DIAGRAM

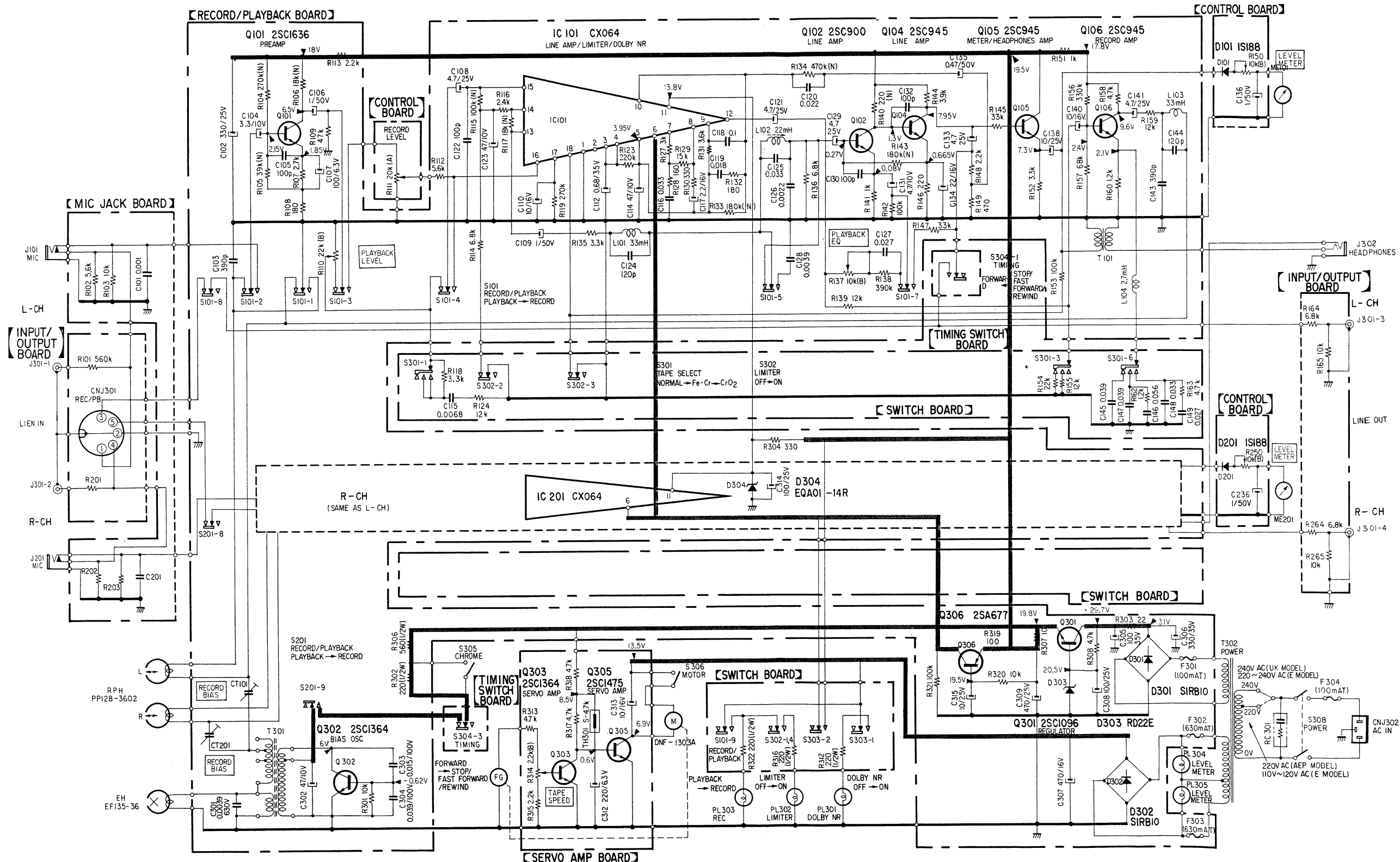
Note:

- All capacitors are in μF unless otherwise noted. 50 or less working voltages are not indicated except for electrolytic type. $p = \mu\text{F}$
- All resistors are in Ω , $\frac{1}{4}W$, unless otherwise noted. $k = 1,000$ $M = 1,000k$
- /// indicates chassis ground.
- --- indicates B+ circuit.

- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20 $k\Omega/V$).
- no mark: common
- Voltage variations may be noted due to normal production tolerances.

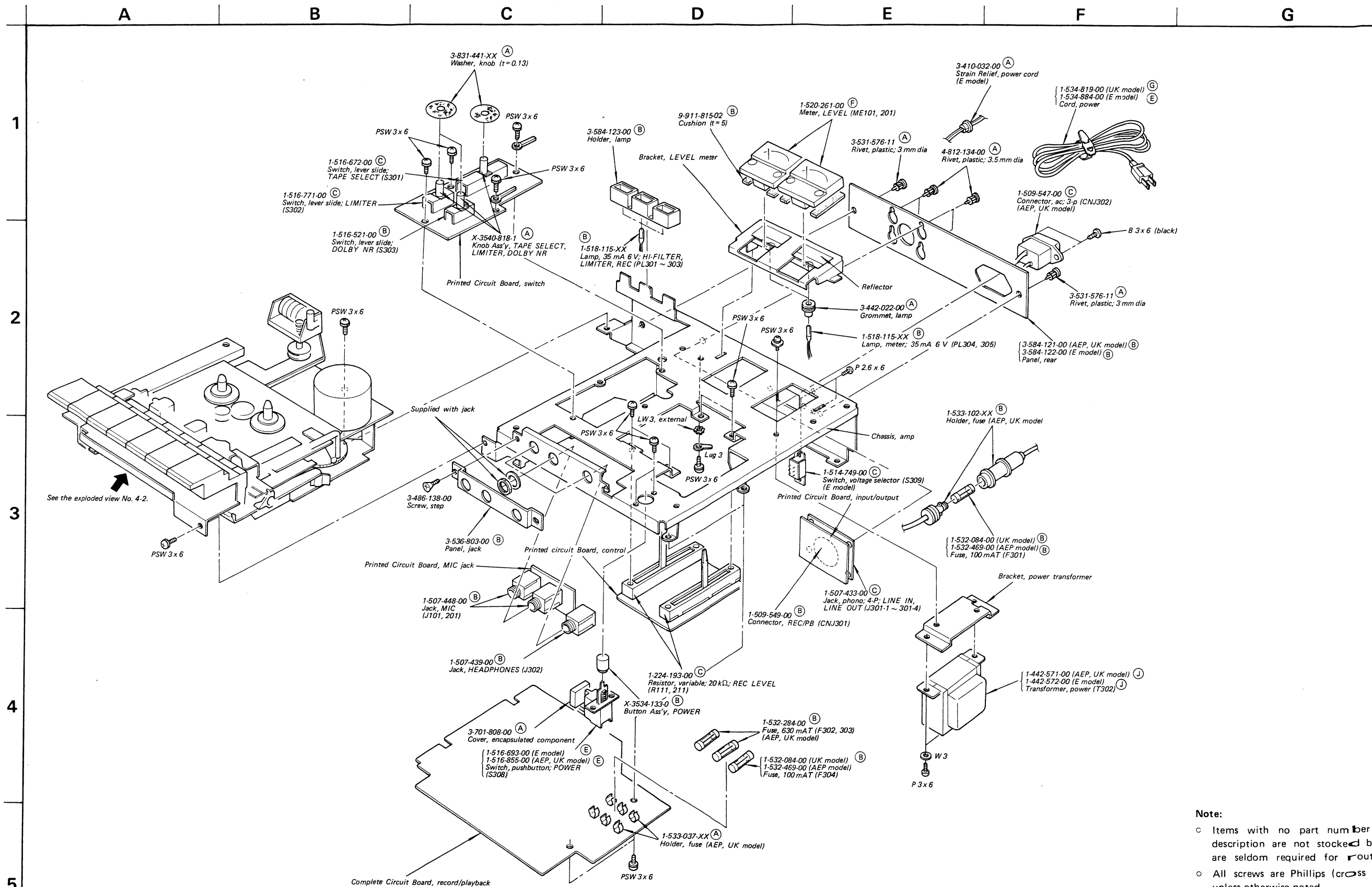
Switch Mode:

Ref. No.	Switch	Position
S101-1 ~ 9	REC/PB	PB
S201-1 ~ 9	REC/PB	PB
S301	TAPE SELECT	NOR
S302	LIMITER	OFF
S303	DOLBY NR	OFF
S304	TIMING	STOP
S305	CHROME	OFF
S306	MOTOR	OFF
S308	POWER	OFF



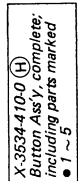
SECTION 4

4-1.

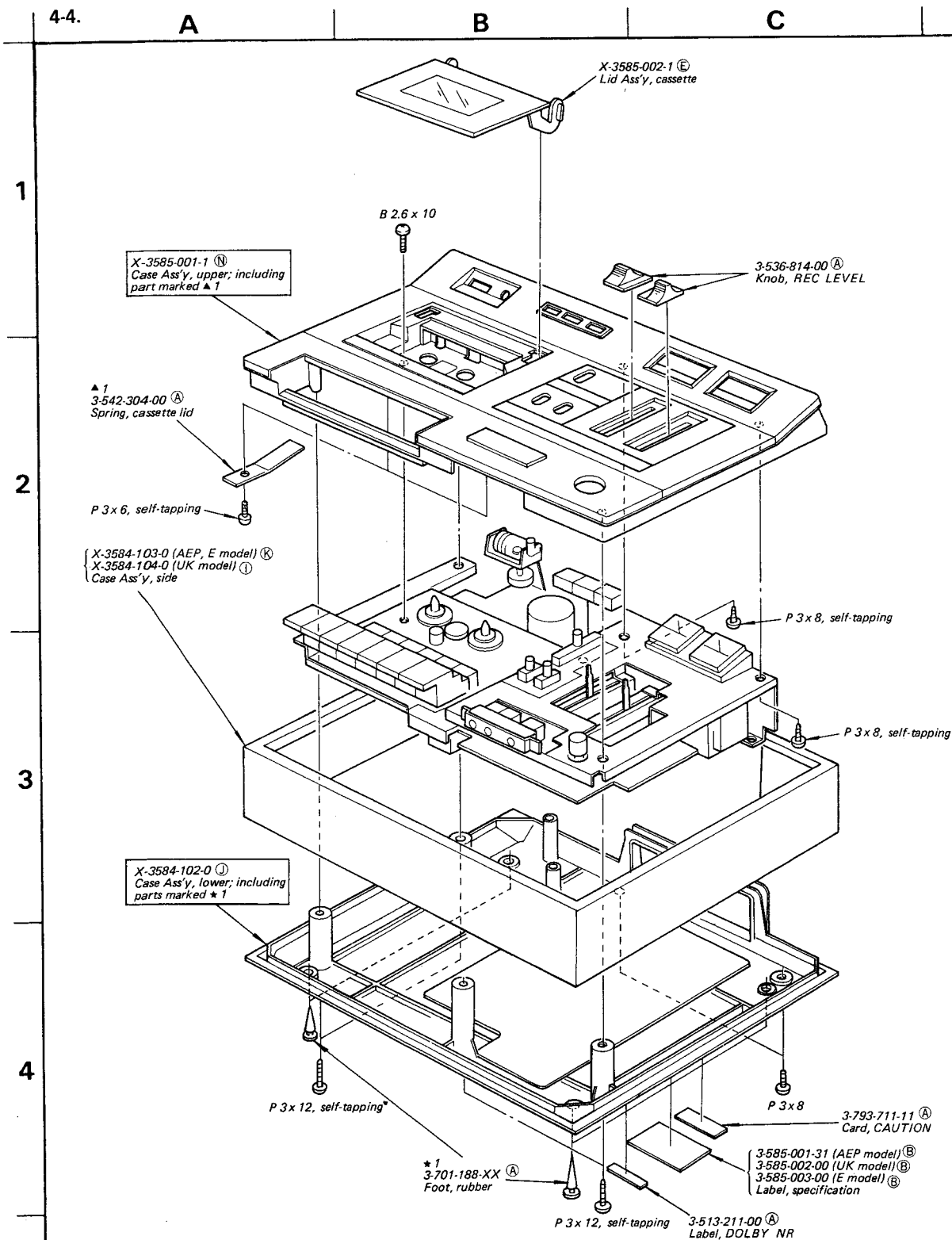


Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
(□□T) shows the number of coils in spring.
- The circled letters (A) to (Z) are applicable for the European model only.



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- All screws are Phillips (cross recess) type unless otherwise noted.
- (—) = slotted head
- (□□T) shows the number of coils in spring.
- The circled letters (A to Z) are applicable for the European model only.

SECTION 5

ELECTRICAL PARTS LIST

Note: The circled letters ((A) to (Z)) are applicable for the European model only.

Ref. No. Part No. Description

PRINTED CIRCUIT BOARD

1-582-3 79-00 (A) Timing Switch

SEMICONDUCTORS

Transistors

Q101, 201	(B) 2SC1636
⇒ Q102, 202	(B) 2SC1362
⇒ Q104 ~ 106	(B) 2SC1364
⇒ Q204 ~ 206	
⇒ Q301	(C) 2SC1384
⇒ Q302, 303	(B) 2SC634A
⇒ Q305	(C) 2SC1384
Q306	(C) 2SA677

ICs

IC101, 201 (1) CX064

Diodes

⇒ D101, 201	(A) 1T22A
D301, 302	(C) SIRB10
⇒ D303	(B) EQA01-22R
⇒ D304	(B) EQB01-14

Thermistor

Th301 1-800-070-XX (A) S-4.7 k

COILS

L101, 201	1-407-561-00 (B) Microinductor, 33 mH
L102, 202	1-407-240-00 (B) Microinductor, 22 mH
L103, 203	1-407-212-XX (B) Microinductor, 33 mH
L104, 204	1-407-196-XX (B) Microinductor, 2.7 mH

TRANSFORMERS

T101, 201	1-427-284-00 (B) Output
T301	1-433-132-11 (C) Bias Osc
T302	1-442-571-00 (1) Power (AEP, UK model)
	1-442-572-00 (1) Power (E model)

Ref. No. Part No. Description

CAPACITORS

All capacitors are in μF and of electrolytic unless otherwise noted. (p = $\mu\mu\text{F}$) 50 or less working volts are omitted except for electrolytic type.

C101, 201	1-108-227-12 (A) 0.001	mylar
C102, 202	1-121-719-11 (B) 330	25 V
C103, 203	1-102-822-11 (A) 390 p	ceramic
C104, 204	1-121-402-11 (A) 3.3	10 V
C105, 205	1-102-106-11 (A) 100 p	ceramic
C106, 206	1-121-391-11 (A) 1	50 V
C107, 207	1-121-413-11 (B) 100	10 V
C108, 208	1-121-395-11 (A) 4.7	25 V
C109, 209	1-121-391-11 (A) 1	50 V
C110, 210		
C112, 212	1-131-214-11 (B) 0.68	35 V tantalum
C114, 214	1-121-352-11 (A) 47	10 V
C115, 215	1-108-237-12 (A) 0.0068	mylar
C116, 216	1-108-244-12 (A) 0.033	mylar
C117, 217	1-131-205-11 (B) 2.2	50 V tantalum
C118, 218	1-108-251-12 (B) 0.1	mylar
C119, 219	1-108-358-12 (A) 0.018	mylar
C120, 220	1-108-587-12 (A) 0.022	mylar
C121, 221	1-121-395-11 (A) 4.7	25 V
C122, 222	1-102-106-11 (A) 100 p	ceramic
C123, 223	1-121-410-11 (A) 47	25 V
C124, 224	1-102-107-11 (A) 120 p	ceramic
C125, 225	1-108-232-12 (A) 0.0033	mylar
C126, 226	1-108-230-12 (A) 0.0022	mylar
C127, 227	1-108-353-12 (A) 0.027	mylar
C128, 228	1-108-354-12 (A) 0.0039	mylar
C129, 229	1-121-395-11 (A) 4.7	25 V
C130, 230	1-102-106-11 (A) 100 p	ceramic
C131, 231	1-121-352-11 (A) 47	10 V
C132, 232	1-102-106-11 (A) 100 p	ceramic
C133, 233	1-121-395-11 (A) 4.7	25 V
C134, 234	1-121-419-11 (B) 22	16 V
C135, 235	1-121-726-11 (A) 0.47	50 V

⇒ : Due to replacement parts, the descriptions are different from the diagrams.

Note: The circled letters ((A) to (Z)) are applicable for the European model only.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C136, 236	1-121-391-11 (A) 1	50 V
C138, 238	1-121-398-11 (A) 10	25 V
C139, 239	1-121-410-11 (B) 47	25 V
C140, 240	1-121-651-11 (A) 10	16 V
C141, 241	1-121-395-11 (A) 4.7	25 V
C143, 243	1-102-822-11 (A) 390 p	ceramic
C144, 244	1-107-133-11 (A) 120 p	100 V silvered mica
C145, 245	1-108-360-12 (A) 0.039	mylar
C146, 246	1-108-361-12 (A) 0.056	mylar
C147, 247	1-108-360-12 (A) 0.039	mylar
C148, 248	1-108-589-12 (A) 0.033	mylar
C149, 249	1-108-587-12 (A) 0.027	mylar
C301	1-127-709-11 (B) 0.0039	630 V solid aluminum
C302	1-121-410-11 (B) 47	10 V
C303	1-108-379-12 (A) 0.015	100 V mylar
C304	1-108-384-12 (B) 0.039	100 V mylar
C305	1-121-357-11 (B) 100	35 V
C306	1-121-655-11 (B) 330	35 V
C307	1-121-426-11 (B) 470	16 V
C308	1-121-935-11 (B) 100	25 V
C309	1-121-940-11 (B) 470	25 V
C312	1-121-419-11 (B) 220	6.3 V
C313	1-121-654-11 (B) 10	16 V
C314	1-121-935-11 (B) 100	25 V
C315	1-121-398-11 (B) 10	25 V
TC101, 201	1-141-010-XX (B) Trimmer	

RESISTORS

All resistors are in ohms. Regular-type 1/4 W carbon resistors are omitted. Check the schematic diagram for the resistance values. (k = 1,000)

R110, 210	1-224-253-XX (C) 22 k	adjustable
R111, 211	1-224-193-00 (C) 20 k	variable, REC LEVEL
R137, 237	1-224-252-XX (C) 10 k	adjustable
R150, 250	1-224-645-XX (B) 10 k	adjustable
R302	1-224-357-11 (A) 220	1/2 W carbon
R306	1-244-867-11 (A) 560	1/2 W carbon
R312, 316, 322	1-244-857-11 (A) 220	1/2 W carbon

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
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R314 1-224-643-XX (B) 2.2 k adjustable

SWITCHES

S101, 201	1-514-976-XX (C) Slide, record/playback
S301	1-516-672-00 (C) Lever Slide, TAPE SELECT
S302	1-516-771-00 (C) Lever Slide, LIMITER
S303	1-516-521-00 (B) Lever Slide, DOLBY NR
S304	1-516-325-00 (B) Slide, timing
S305	1-514-346-00 (B) Micro, chrome
S306	1-516-853-XX (C) Leaf, motor
S307	1-514-749-00 (C) Voltage Selector (E model)
S308	1-516-693-00 (E) Pushbutton, POWER (E model)
	1-516-855-00 (E) Pushbutton, POWER (AEP, UK model)

FUSES

F301, 304	1-532-084-00 (B) 100 mA (UK model)
	1-532-469-00 (B) 100 mA (AEP model)
F302, 303	1-532-284-00 (B) 630 mA (AEP, UK model)

JACKS

J101, 201	1-507-448-00 (B) MIC
J301-1 ~ 301-4	1-507-433-00 (C) Phono, 4-p; LINE IN, LINE OUT
J302	1-507-439-00 (B) HEADPHONES

MISCELLANEOUS

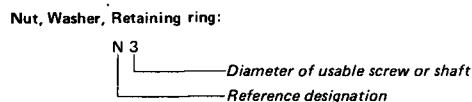
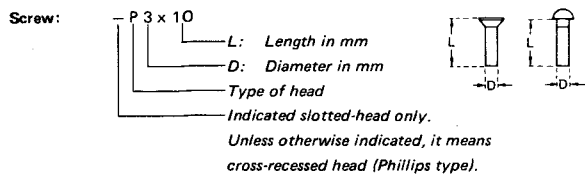
CNJ301	1-509-549-00 (B) Connector, REC/PB
CNJ302	1-509-547-00 (C) Connector, ac; 3-p (AEP, UK model)
EH	8-825-506-00 (C) Head, erase; EF135-36
M	8-834-015-50 (K) Motor, DNF-1303A
ME101, 201	1-520-261-00 (F) Meter, LEVEL
PL301 ~ 305	1-518-115-XX (B) Lamp, 6 V 35 mA; HI-FILTER, LIMITER, REC, meter
RC301	1-231-057-31 (B) Encapsulated Component
RPH	8-829-236-20 (K) Head, record/playback; PP128-3602
	1-533-037-XX (A) Holder, fuse (AEP, UK model)
	1-533-102-XX (B) Holder, fuse (AEP, UK model)
	1-534-819-00 (C) Cord, power (UK model)
	1-534-884-00 (E) Cord, power (E model)
	1-548-501-41 (E) Counter, tape

Note: The circled letters (A to Z) are applicable for the European model only.

ACCESSORIES

<u>Part No.</u>	<u>Description</u>
1-534-049-31	Ⓕ Cord, connection; RK-74H
1-534-819-00	Ⓖ Cord, power; DK-37 (UK model)
3-585-013-11	Ⓒ Manual, instruction (AEP, UK model)
3-585-013-51	Ⓒ Manual, instruction (E model)

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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STEREO
CASSETTE-CORDER

TC-118SD

TC-118SD

AEP Model
UK Model
E Model

SUPPLEMENT

No. 1
January, 1977

This supplement updates the service manual to include the production change to the models bearing serial number 403001 and later.
File this supplement with the service manual.

1. ELECTRICAL PARTS LIST CHANGE

1) Ref. No.	Former		New	
	Part No.	Description	Part No.	Description
C102, 202	1-121-719-11	Ⓑ 330 25 V	1-121-416-11	Ⓑ 100 25 V
C110, 210	1-121-391-11	Ⓐ 1 50 V	1-121-651-11	Ⓐ 10 16 V
C123, 223	1-121-410-11	Ⓐ 47 25 V	1-121-352-11	Ⓐ 47 10 V
C130, 230	1-102-106-11	Ⓐ 100 p ceramic	1-102-833-11	Ⓐ 0.01 ceramic
C139, 239	1-121-410-11	Ⓑ 47 25 V	—	—
C314	1-121-935-11	Ⓑ 100 25 V	1-123-065-11	Ⓐ 330 25 V

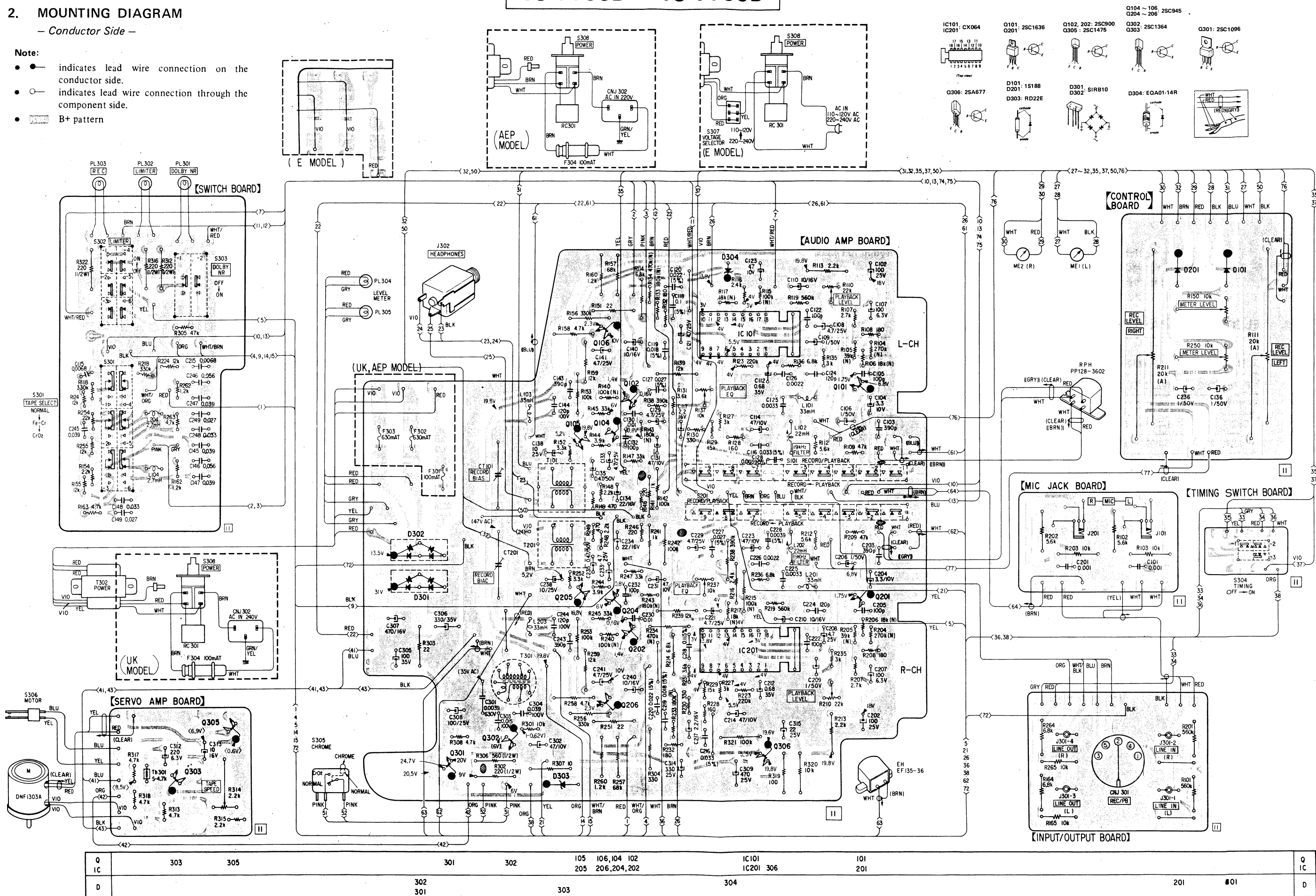
2) Record/playback printed circuit board is changed.

SONY
SERVICE MANUAL

TC-118SD TC-118SD

Note:

- — indicates lead wire connection on the conductor side.
- — indicates lead wire connection through the component side.
-  B+ pattern



3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in μF unless otherwise noted. 50 or less working voltages are not indicated except for electrolytic type. $p = \mu\text{F}$
- All resistors are in Ω , $\frac{1}{4}W$, unless otherwise noted. $k = 1,000$ $M = 1,000k$
- /// indicates chassis ground.
- --- indicates B+ circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20k Ω/V).
- no mark: common
- Voltage variations may be noted due to normal production tolerances.

• Switch Mode:

Ref. No.	Switch	Position
S101-1 ~ 9	REC/PB	PB
S201-1 ~ 9	REC/PB	PB
S301	TAPE SELECT	NOR
S302	LIMITER	OFF
S303	DOLBY NR	OFF
S304	TIMING	STOP
S305	CHROME	OFF
S306	MOTOR	OFF
S308	POWER	OFF

